

Amendments to the Specification:

Please replace the first paragraph on page 5 with the following amended paragraph:

Accordingly, a need has arisen in the art for an improved circuit models for use with simulation and analysis systems.

Please replace the second paragraph on page 11 with the following amended paragraph:

While the enhanced parametric model of Eq. (8) is substantially continuous, this function is only piecewise continuous when  $V_o=0$ . Therefore, the derivative of this function will not be continuous at this point (step 525). In this case, the cause is that at  $V_o=0$ ,  ~~$4\sqrt{V_o}\theta$~~   $4V_o\theta$  is identically zero. To avoid this situation, a compensation constant,  ~~$\Delta$~~   $\Delta$ , can be applied to the square root term of Eq. (8) in addition to the terms  ~~$4\sqrt{V_o}\theta$~~   $4V_o\theta$  and  $(V_o-V-\theta)^2$ .

Please replace the third paragraph on page 11 with the following amended paragraph:

Applying a mathematical identity,

$$(V_o - \theta)^2 + 4\theta V_o + 2V_o\Delta + \underline{2\theta\Delta} + \Delta^2 = (V_o + \theta + \Delta)^2, \quad (10)$$

an enhanced parametric base model can be defined as:

$$V_{eff} = V_o - \frac{1}{2} \left\{ (V_o - V - \theta - \Delta) + \sqrt{(V_o - V - \theta)^2 + 4\theta V_o + 2V_o\Delta + 2\theta\Delta + \Delta^2} \right\} \quad (11)$$

With  ~~$\Delta$~~   $\Delta=0.01$ , for example, the terms inside the square root other than  $(V_o-V-\theta)^2$  will never be zero even though  $V_o=0$ . Recognizing that the overall value within the square root can be negative when the value of  $V_o$  is very small, and that the property dictated by

Eq. (2a) needs to be fulfilled only when  $V_0$  is positive, the parametric equation model of Eq. 1 can be further refined as:

$$V_{eff} = V_0 - \frac{1}{2} \left\{ (V_0 - V - \theta - \Delta) + \sqrt{(V_0 - V - \theta)^2 + 4\theta V_0 + 2\sqrt{V_0^2} \Delta + 2\sqrt{\theta^2} \Delta + \Delta^2} \right\}, \quad (12)$$

which is the desired ~~enchanced~~ enhanced continuous parametric model.